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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,685	10/01/2004	Gary M Hieftje	29920-75460	2968
23643	7590	04/13/2006		
BARNES & THORNBURG 11 SOUTH MERIDIAN INDIANAPOLIS, IN 46204			EXAMINER VANORE, DAVID A	
			ART UNIT 2881	PAPER NUMBER

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/500,685

Applicant(s)

HIEFTJE ET AL.

Examiner

David A. Vanore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31, 33, 34, 36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31, 33, 34, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-31 and 33-37 have been considered but are moot in view of the new ground(s) of rejection.

### ***Information Disclosure Statement***

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Objections***

3. Claim 31 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 31 recites the method of Claim 30 comprising a method of operating a time of flight mass spectrometer. This limitation is not a specific method step which further limits parent Claim 30. What are the method steps associated with the recited "method of operating a time of flight mass spectrometer"?

***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the matrix assisted laser desorption ionization means recited in claims 14-15 and 28-29 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. Claims 14-15 and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to describe the use of an ion source in the form of a matrix assisted laser desorption ionization means.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 2 and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Naito (USPN 3,886,357).

8. Naito teaches a mass spectrometer and method of operation where two different ion streams are coupled (Note Fig. 1) simultaneously and detected simultaneously (Col. 6 Lines 2-34) from different ion sources Items 1 and 2.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-2, 6, 14, 16, 20, 28, 30-31, 33, and 36 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Farnsworth (USPN 6,777,670).

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11. Regarding claims 1-2, 16, and 30-31, Farnsworth teaches a mass spectrometer for the parallel processing of samples and method of operation where a sample is introduced to plural ionization sources (Items 57a through 57f) in an ionization array. These sources create plural beams (Items 90a through 90f) which are coupled to a mass filter array (Item 35) having plural channels for sorting ions by their respective mass to charge ratio (Col. 4 Lines 44-58), where the device further includes plural ion detectors (Items 42a through 42f) in ion detector array (Item 40) for the simultaneous generation of mass spectra based on detected ion data from the plural ion beams generated by the plural ion sources.

12. Regarding claims 6, 14, 20, 28, 33 and 36, Farnsworth teaches that the ion sources may be matrix assisted laser desorption ionization means or electrospray ionization means (Col. 4 Lines 16-43).

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 3, 4, 15, 17, 18, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnsworth (USPN 6,777,670).

15. Farnsworth teaches all the required limitations of claims 2 and 16 as pointed out above.

16. Farnsworth fails to teach a mass selection means in the form of a time of flight mass spectrometer.

17. The mass selection means of Farnsworth (Item 35, described at Col. 5 for example) utilizes a plurality of ion selection chambers having a plurality of electrodes with potentials applied thereto to sort ions based on their mass to charge ratio.

18. The function of the mass selection means of Farnsworth and that of the instantly claimed time-of-flight mass spectrometer is the same in that both device are utilized to sort ions based on their mass to charge ratio.

19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a time of flight mass spectrometer as a mass selection means because the time of flight mass spectrometer is a notoriously well known mass selection device as employed in mass spectrometers.

20. Claims 5, 7, 8-13, 19, 21-27, 34, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnsworth (USPN 6,777,670) in view of Whitehouse et al. (USPN 6,040,575).

21. Farnsworth teaches all the required limitations of 5, 7, 8-13, 19, 21-27, 34, and 37 as pointed out above.

22. Farnsworth fails to teach the use of electron impact or inductively coupled plasma ion sources as means for generating ions from a sample material as required in claims 5, 7, 8-13, 19, 21-27, 34, and 37.

23. Whitehouse et al. teaches the use of multiple types of ion sources selected from matrix assisted laser desorption ionization means, electrospray means, electron impact

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ionization means, and inductively coupled plasma ion sources depending on the type of sample to be analyzed (Col. 1 Lines 16-54).

24. Whitehouse et al. modifies the device and method of Farnsworth such that ions produced in the device of Farnsworth are produced by matrix assisted laser desorption ionization means, electrospray means, electron impact ionization means, or inductively coupled plasma ion sources as required by the material to be analyzed.

25. It would have been obvious to one having ordinary skill at the time the invention was made to apply any of the kinds of ion sources of Whitehouse et al. to the parallel mass analyzer of Farnsworth because such a combination would allow parallel processing of samples of different phase, such as solid, liquid, and gaseous samples, thus increasing the throughput of sample processing and increasing the number and types of samples which can be concurrently processed in Farnsworth.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Vanore whose telephone number is (571) 272-2483. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David A Vanore  
Patent Examiner  
Art Unit 2881

4/11/06

dav